Client/Server:
The New IT Environment

Peter Cunningham
President
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Topics

- Introduction
  - IT Revolutions
  - Client/Server Computing
- Client/Server User Implementation
- Vendor Strategies
- Conclusion

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Introduction

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Revolutions

- Downsizing
- Outsourcing
- Re-engineering
- Networking

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IS Environment

"Old" Traditional	"New" Downsized
Mainframe	Client/server
Shared	Dedicated
Remote	Local
IS operated	User operated

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Client/Server Computing Description

- Concept involves
  - Sharing of responsibility; client and server necessary for applications result
  - 'Action' on the part of both client and server computers to achieve result

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Client/Server User Implementation

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C/S Sample Characteristics

Characteristic	1993	1997
Avg. No. of Clients	1,294	2,318
Avg. No. of Servers	24	96
Avg. No. of LANs	34	78
Server/LAN Ratio	0.71	1.23
Client/Server Ratio	70/1	55/1

124 respondents

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Equipment Selection Reasons

Reason	Proportion of Mentions (%)	
	Client	Server
In-Place	33	31
Price-Performance	25	22
Standards	18	11
Other	23	35

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*Top four from 60 user surveys

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Distribution of Equipment Vendors

Vendor	Proportion of Mentions (%)	
	Client	Server
IBM	(20)	[30]
"Intel"	[32]	11
Compaq	19	(14)
Other	28	47

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Conclusions—Equipment

- Servers are increasingly large PCs
- Already 'Legacy' C/S structures
- "Intel" is a leading C/S vendor
- Client market saturating
- Server market is open

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Distribution of Operating Systems

OS	Proportion of Mentions (%)	
	Client	Server
DOS	73	38
UNIX	7	32
OS2	14	13
Other	7	17

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Distribution of Network Operating Systems

OS	Proportion of Responses (%)
Netware	74
LAN Manager	8
LAN Server	7
TCP	6
Other	10

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Operating Systems Selection Reasons

Reason	Proportion of Mentions (%) COS	SOS	NOS
In-Place	[27]	12	[25]
Capabilities	11	[21]	14
Standards	(18)	5	16

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Operating Systems Selection Reasons

Reason	Proportion of Mentions (%)		
	COS	SOS	NOS
Compatibility	6	(14)	(17)
Other	38	48	28

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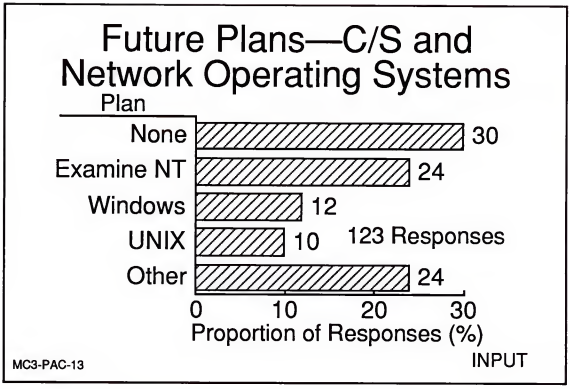

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Conclusions
Operating Systems

- Dislocation between client and server OS
  - Clients, DOS is 'there'
  - Servers, selection is open
- Novell dominates NOS—No change expected
- NT is not penetrating rapidly

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Distribution of DBMS Vendors

DBMS	Proportion of Mentions (%)	
	Client	Server
Oracle	17	26
Sybase	7	18
FoxPro	14	8

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Distribution of DBMS Vendors

DBMS	Proportion of Mentions (%)	
	Client	Server
DB2	5	9
Access	15	-
Other	43	38

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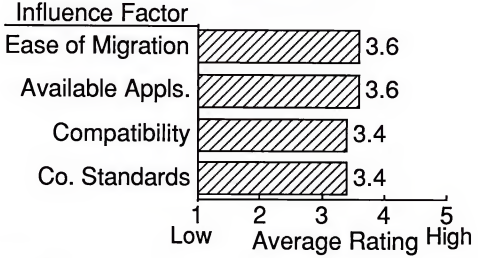
Rating of Factors Influencing DBMS Selection



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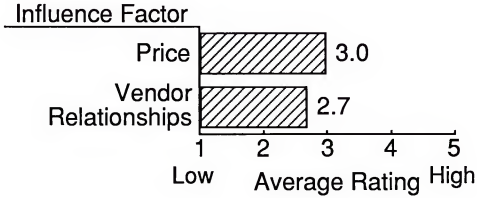
Rating of Factors Influencing DBMS Selection



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Conclusions on DBMS

- Oracle is well positioned on both C and S
- Microsoft gaining ground fast
  - FoxPro on both C and S
  - Access on clients

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Conclusions on DBMS

- Data base systems may be increasingly unnecessary on clients
  - 'Run-time' versions with data
  - No need for data management
- Variety of data base combinations exploding

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Vendor Strategies

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Vendor Strategies
Systems Companies

- Establishing C/S units
  - IBM
  - Data General
  - Tandem
  - Amdahl
- Generally attacking market
  - DEC

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Vendor Strategies
Systems Companies

- "Cosmetic" approach in many cases
- Attempting to 'co-opt' the market
- Supported by consultants/IS managers

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Vendor Strategies—Software Products Companies

- Running scared/hard
- High-end products
  - Downsizing products
  - Choosing ADEs difficult
  - Dramatically reduced pricing
  - Costly process

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Vendor Strategies—Software Products Companies

- Low-end products
  - Adding features/functions
  - Potential for network distribution
  - Slowing client growth
  - Server pricing difficult

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Vendor Strategies
Services Companies

- Integrators leveraging knowledge
  - Andersen, CSC, Systemhouse, TRW
- Professional services companies switching skills
  - CGS, CTG, IMI

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Vendor Strategies
Services Companies

- Processing companies addressing threats
  - ADP, EDS, TCC
- Network companies seizing opportunities
  - AOL, CompuServe, CONNECT

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Vendor Strategies

- Developing software for multiple platforms
- Acquiring/developing C/S skills
- Establishing technology centers
- Struggling with marketing/sales
- Stepping across boundaries

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Conclusions

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Conclusions

- Data supports:
  - Movement to users
  - Fragmentation
  - Movement away from "standards"
  - Movement towards interoperability

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Conclusions

- Changing demand for products and services
  - Targets are more diffused
  - Needs are defined more narrowly
  - Buyers are more 'selfish'

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Conclusions

- C/S accelerates impact of price performance improvements
- Network products/services prime opportunities
- Internet is the network model of the future
- Small ("piggyback") networks will multiply

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Successful Products and Services—Characteristics

- High-value, low-cost (of ownership)
- On the winning platforms
- Flexible and extendable
- Easily implemented and operated
- Low cost, high value support
- Constantly improved price/ performance

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Successful Products and Services—Marketing

- Win "beauty contests"
- Influence the influencers
- Price properly

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PETER A. CUNNINGHAM
PRESIDENT

PROFILE

- Mr. Cunningham has 28 years of experience in the information technology industry, including over 20 years of P&L responsibility in consulting.
- Mr. Cunningham provides information and advice to users and vendors of information technology. He specializes in analysis and forecasting of major trends in the industry, particularly in software, services, and the impact of information technology on people and organizations.
- In 1974, Mr. Cunningham founded INPUT to provide planning services, market research and consulting to buyers and vendors of IT products and services on a worldwide basis. The company specializes in analyzing and forecasting the applications and use of IT, particularly through the information services industry. This industry is now over $250 billion per year in size and is being driven by trends in outsourcing, systems integration, and downsizing. INPUT's mission is to provide its clients the ability to benefit from these and other IT trends and opportunities.
- Previously, he was a founder and President of J.W. Goodhew and Associates, Inc., a Washington, D.C. data processing consulting company specializing in the Medicaid, association, and manufacturing industries, as well as the federal government. Prior to that, Mr. Cunningham was with Management Science America, responsible for data processing projects in government and industry.
- Mr. Cunningham came to the United States with C-E-I-R, for whom he performed systems development and management.
- Mr. Cunningham started his career with ICL in 1964 in systems software development.

EDUCATION

- B.Sc. (Physics), Associate of the Royal College of Science, Imperial College, London
- M.P.A. (Technology of Management), The American University, Washington, D.C.

MEMBERSHIPS

- Fellow of the British Computer Society
- Member of the Worshipful Company of Information Technologists (Guild of the City of London)